

ABSTRACT

An impeller for use in a centrifugal pump, the impeller including a shroud having opposed faces, an outer peripheral edge portion and a rotation axis, a plurality of pumping vanes on one of the faces of the shroud and extending away from the rotation axis, each pumping vane having an outer peripheral edge portion, and a plurality of auxiliary vanes on the other face of the shroud, the auxiliary vanes of each having an outer edge portion wherein the dimension D_a from the rotation axis to the outer peripheral edge portion of the shroud is greater than the dimension D_b from the rotation axis to the outer edge portion of the auxiliary vanes.